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(54) **Control of non-contact interference fringes in photographic films**

(57) A photographic optical system for substantially eliminating non-contact interference fringes in a photographic film comprises: (a) a source of polarized electromagnetic radiation, the radiation being characterized by a wavelength and an incident polarization angle; and (b) a photographic film capable of optical communication with the source and serving to transmit or reflect a portion of the radiation, the film comprising a silver halide emulsion layer on a birefringent support, the support being characterized by a thickness, an emulsion layer interface, an air interface, and birefringence that is dependent on the wavelength of the radiation; wherein the radiation wavelength and incident polarization angle and the support thickness and birefringence are selected such that radiation which penetrates the film and reflects from the air interface exits the support at the emulsion layer interface polarized at an angle substantially perpendicular to the incident polarization angle; whereby the photographic film may be imaged by the source of polarized electromagnetic radiation substantially without formation of non-contact interference fringes. In a process for eliminating non-contact interference fringes, a film that includes a support having a selected thickness and birefringence is exposed by polarized light characterized by a wavelength and an incident polarization angle. Photographic development processing of the exposed film produces an image substantially without fringes.

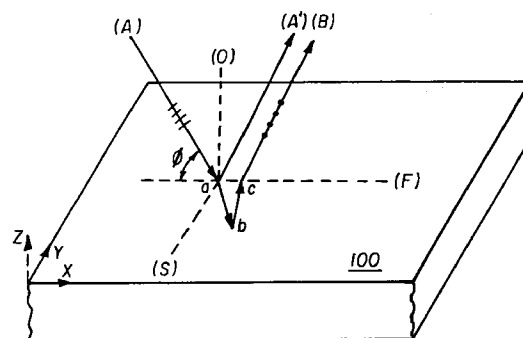


FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 95 11 9099

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A,D	US-A-4 711 838 (GRZESKOWIAK) * column 3, line 54 - column 4, line 51 * ---	1	G03C1/76 G03G5/10 G02B27/28
A	GB-A-2 156 089 (CANON) * page 2, line 74 - line 101 * * figure 2 * ---	1	
A	US-A-5 069 758 (HERBERT) * column 3, line 46 - line 64 * * figure 4 * ---	1	
A	EP-A-0 457 577 (XEROX) * column 3, line 2 - line 39 * * figure 4 * ---	1	
A	EP-A-0 601 501 (FUJI) * page 5, line 44 - page 7, line 37 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			G03C G03G G01C
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 19 September 1996	Examiner Luck, W
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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